

Amendments to the Claims

This listing of claims replaces all prior versions and listings of claims in the application.

Listing of claims:

1. **(Currently Amended)** An anti-fouling composition comprising
 - (i) a surface coating material;
 - (ii) a first enzyme and a first substrate, wherein the first substrate is selected from an oligomer or a polymer oligomers and polymers of a second substrate substrates, said second substrate being a substrate for an oxidative enzymes enzyme, and wherein first enzyme is capable of generating said second substrate from said first substrate; and
 - (iii) a first enzyme;
 - (iv) a second enzyme, wherein the second enzyme is an oxidase; and wherein said second enzyme generates an anti-fouling compound when acting on said second substrate wherein the first substrate and the first enzyme react to generate a second substrate, wherein the second substrate is selected from the group consisting of D-glucose, D-galactose, D-mannose, maltose, lactose and cellobiose, upon which the second enzyme acts, whereby an anti-foulant compound is generated which is long-acting.
2. **(Currently Amended)** A composition according to claim 1 wherein the second enzyme oxidase is from a marine algae.
3. **(Currently Amended)** A composition according to claim 1 wherein the second enzyme oxidase is from *Chondrus crispus*.

Claims 4-8. **(Cancelled)**

9. **(Previously Presented)** A composition according to claim 1 wherein the first enzyme is amyloglucosidase.
10. **(Previously Presented)** A composition according to claim 1 wherein the first substrate is starch.

11. **(Previously Presented)** A composition according to claim 1 wherein the composition further comprises a binder to immobilise at least one of the constituents of the composition.

12. **(Original)** A coating consisting of a composition according to claim 1.

13. **(Original)** A coating according to claim 12 formulated for treatment of a surface selected from outdoor wood work, external surface of a central heating system, and a hull of a marine vessel.

14. **(Previously Presented)** A marine anti-foulant consisting of a composition according to claim 1.

15. **(Previously Presented)** A marine anti-foulant according to claim 14 wherein the anti-foulant is self-polishable.

Claims 16-31. **(Cancelled)**

32. **(Cancelled-Currently Amended)** The composition of claim 31, wherein the hexose oxidase is from *Chondrus crispus*.

33. **(Cancelled)**

34. **(Currently Amended)** The composition of claim [[30]] 1, wherein the second substrate is a sugar.

35. **(Previously Presented)** The composition of claim 34, wherein the sugar is glucose.

36. **(Cancelled)**

37. **(Cancelled)**

[[37]] **38. (Cancelled-Currently Amended)** The composition of claim 1, wherein the anti-foulant acts for at least four weeks.

[[38]] **39. (Cancelled-Currently Amended)** The composition of claim 1, wherein the anti-foulant acts for at least two years.

[[39]] **40. (Currently Amended)** The composition of claim 1, wherein the ~~second enzyme oxidase~~ is a hexose oxidase.

[[40]] **41. (Currently Amended)** The composition of claim 1, wherein the composition is formulated as a coating, lacquer, stain or enamel.

[[41]] **42. (Currently Amended)** The composition of claim [[12]] 1, wherein the ~~coating materials are selected from composition further comprises a surface coating material selected from~~ polyvinyl chloride resins in a solvent based system, chlorinated rubbers in a solvent based system, acrylic resins and methacrylate resins in solvent based or aqueous systems, vinyl chloride-vinyl acetate copolymer systems as aqueous dispersions or solvent based systems, butadiene copolymers such as butadiene-styrene rubbers, butadiene-acrylonitrile rubbers, and butadiene-styrene-acrylonitrile rubbers, drying oils such as linseed oil, alkyd resins, asphalt, epoxy resins, urethane resins, polyester resins, phenolic resins, derivatives and mixtures thereof.

43. **(New)** The composition of claim 40, wherein the hexose oxidase comprises the amino acid sequence set out in SEQ ID NO: 2.

44. **(New)** The composition of claim 40, wherein the hexose oxidase is obtained by cloning and expression in recombinant host organisms of a gene encoding the protein.

45. **(New)** The composition of claim 1, wherein the first substrate is water insoluble.

46. (New) The composition of claim 1, wherein the first substrate is selected from the group consisting of starch, lactose, cellulose, dextrose, peptide, inulin and mixtures thereof.

47. (New) The composition of claim 1, wherein the oxidase is from a marine organism.

48. (New) The composition of claim 1, wherein the first enzyme and the second enzyme are incorporated in the surface coating material.

49. (New) A method for releasing an anti-fouling compound from a surface coating comprising incorporating in a surface coating:

- (i) a first enzyme and a first substrate, wherein said first substrate is an oligomer or a polymer of a second substrate, said second substrate being a substrate for an oxidase enzyme, and wherein said first enzyme generates said second substrate from said first substrate;
- (ii) a second enzyme, wherein said second enzyme is an oxidase and wherein the second enzyme generates an anti-fouling compound by acting on said second substrate.

50. (New) A method for treating a surface of a vessel comprising applying a coating material to the surface, the coating material comprising:

- (i) a first enzyme and a first substrate, wherein said first substrate is an oligomer or a polymer of a second substrate, said second substrate being a substrate for an oxidase enzyme, and wherein said first enzyme generates said second substrate from said first substrate; and
- (ii) a second enzyme, wherein said second enzyme is an oxidase and wherein the second enzyme generates an anti-fouling compound by acting on said second substrate.